



Navy Manufacturing Technology (MANTECH) Program

Ms. Adrienne Gould
Deputy Director, Navy
Manufacturing Technology
Program (Code 361)



Manufacturing Technology

Vision: Realize a responsive, world class manufacturing capability to affordably meet the warfighters' needs throughout the defense system life cycle through risk reduction, Joint Service coordination and Centers of Excellence

Objective: Provide A mechanism for the development of enabling manufacturing technology, in the form of new equipment and processes, and its implementation on DoD weapon system production lines:

- To be used when industry cannot or will not provide the needed capability in a timely manner
- Should be viewed as a risk reduction program rather than simply a cost reduction program



MANTECH Scope



Address Manufacturing Life Cycle Issues:

- ***Design & Development:*** New, Repeatable Processes
- ***Production:*** Factory Operations, Supplier Capability
- ***Support & Sustainment:*** Maintenance, Repair, & Over



Navy MANTech Centers of Excellence

Centers of Excellence: Focal points for the development and technology transfer of new manufacturing processes and equipment in a cooperative environment with industry, academia, and the Navy warfare centers and laboratories.

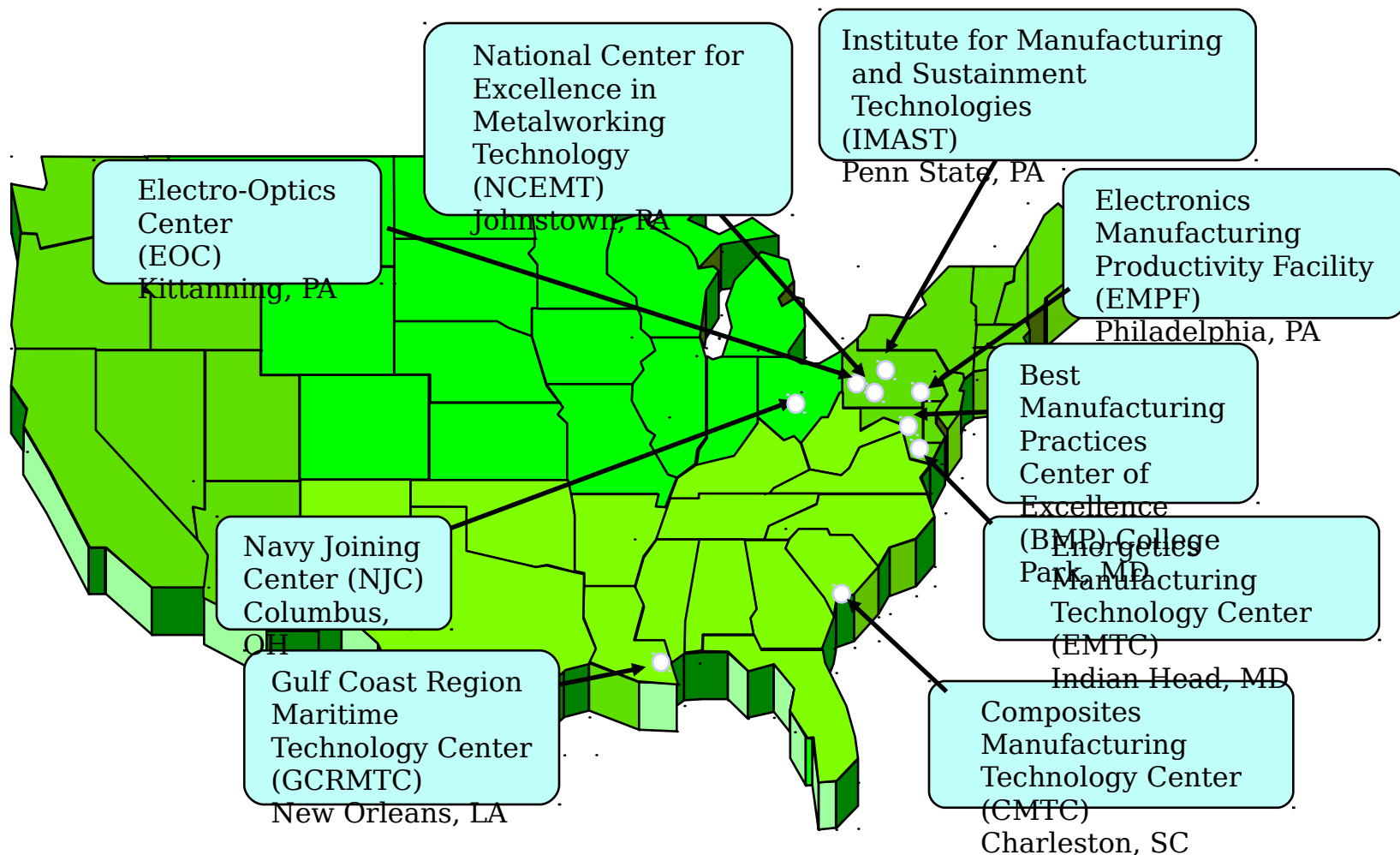
Specific Functions:

- Serve as corporate residences of expertise in particular technological areas
- Collaborate with Systems Commands (SYSCOMs) and industry to develop manufacturing issues
- Develop and demonstrate manufacturing technology solutions for identified Navy manufacturing requirements
- Provide consulting services to Naval industrial activities and industry
- Facilitate the transfer of developed manufacturing technologies





MANTECH Centers of Excellence





MANTECH PROGRAM CUSTOMERS

Navy and Marine Corps

CVN

F/A 18

AAAV

DD-21

DDG-51

LPD-17

SLAM-ER

V-22

AAV

JSF

Naval Aviation Depots

Naval Shipyards

Major Industry/Academia

Litton

Lockheed Martin

Northrup Grumman

Pratt & Whitney

Ingalls Shipbuilding

General Electric

General Dynamics (BIW)

Boeing (MA&M)

Rockwell Collins

Cincinnati Machines

**Newport News Shipbuilding and
Drydock**

PennState University

Clemson University

⁶ University of New Orleans



MANTECH

Sponsorship/Ownership

CNR

Chairman of ESC

Central management
and execution of the
DON MANTECH
Program

MANTECH ESC

(SYSCOM Senior Civilians)

Provide top level
requirements guidance to
the DON MANTECH
community.

Review and approve
MANTECH Program policy
and the SYSCOMs' short
and long term planning
submissions.

N-91

Resource and
Program Sponsor

Provides overall
financial planning
and programming.

MANTECH IPT

(SYSCOM MANTECH
Managers)

**Facilitates
communication,
coordination, and
execution of the Navy
MANTECH Program**



Joint Directors of Manufacturing Technology Panel

**Coordinate the DoD
MANTECH planning
process**



MANTECH ESC Membership

Command:

Office of Naval Research (Chair)

Chief of Naval Operations (N91)

Naval Air Systems Command

Naval Sea Systems Command

**Space and Warfare Systems Command
Andrews**

Naval Supply Systems Command

Member:

RADM Jay Cohen

Dr. Jim Andrews

Dr. Alan Somoroff

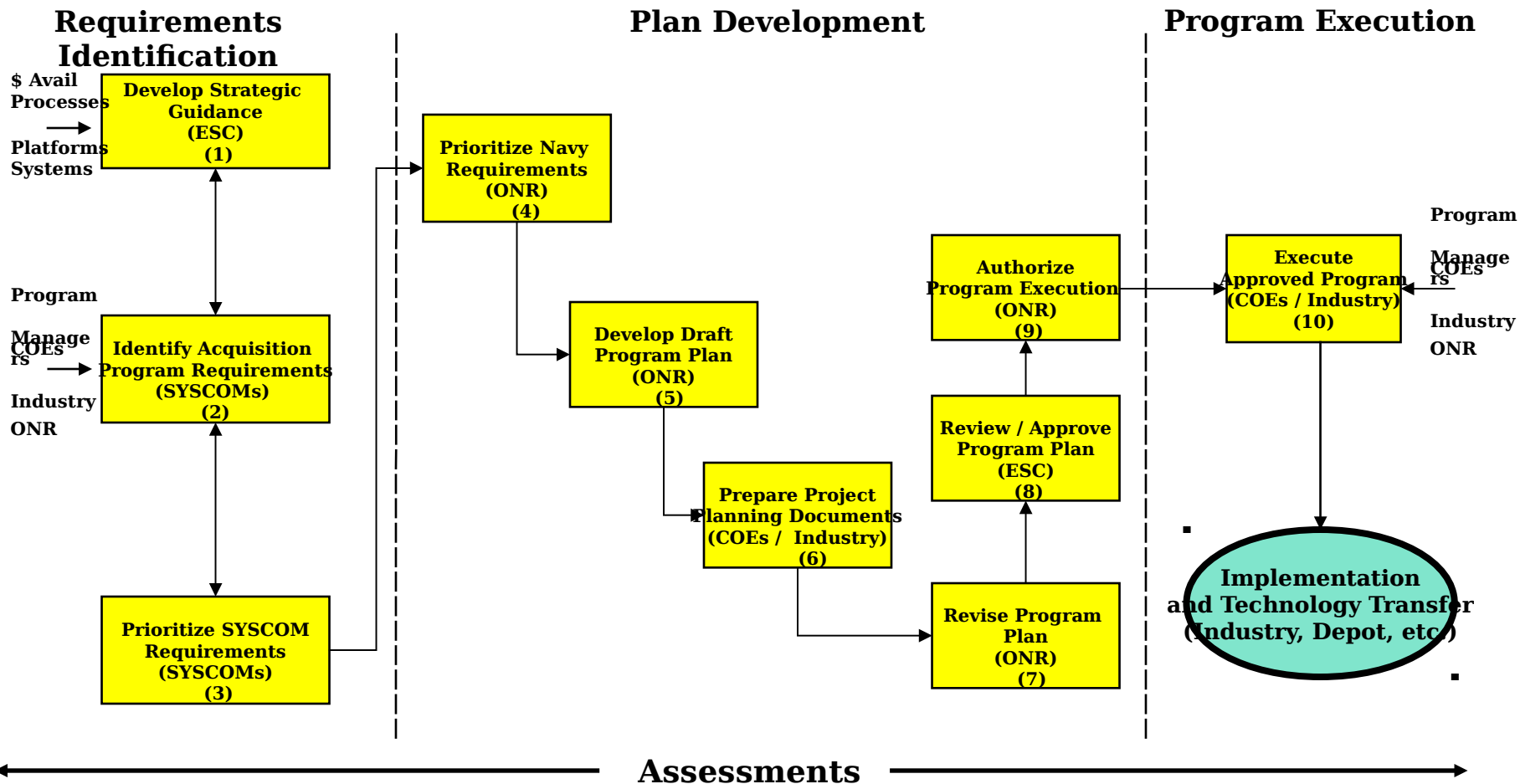
Mr. Pete Brown

Mr. Phil

Mr. Larry Glasco



MANTECH Strategic Planning & Execution Process





Project Prioritization

Weighting Factors

- **1.0 SYSCOM Priority** 20
- **2.0 MANTECH Program Considerations** 20
- **3.0 Implementation Plan** 18
- **4.0 Industry Involvement** 15
- **5.0 PO / SA Commitment** 13
- **6.0 COE Involvement** 9
- **7.0 Benefits** 5



MANTECH Sample Transitions

Composites Affordability Initiative (CAI)

Travelling Wave Tube (TWT)

Advanced Fiber Placement

Pathways

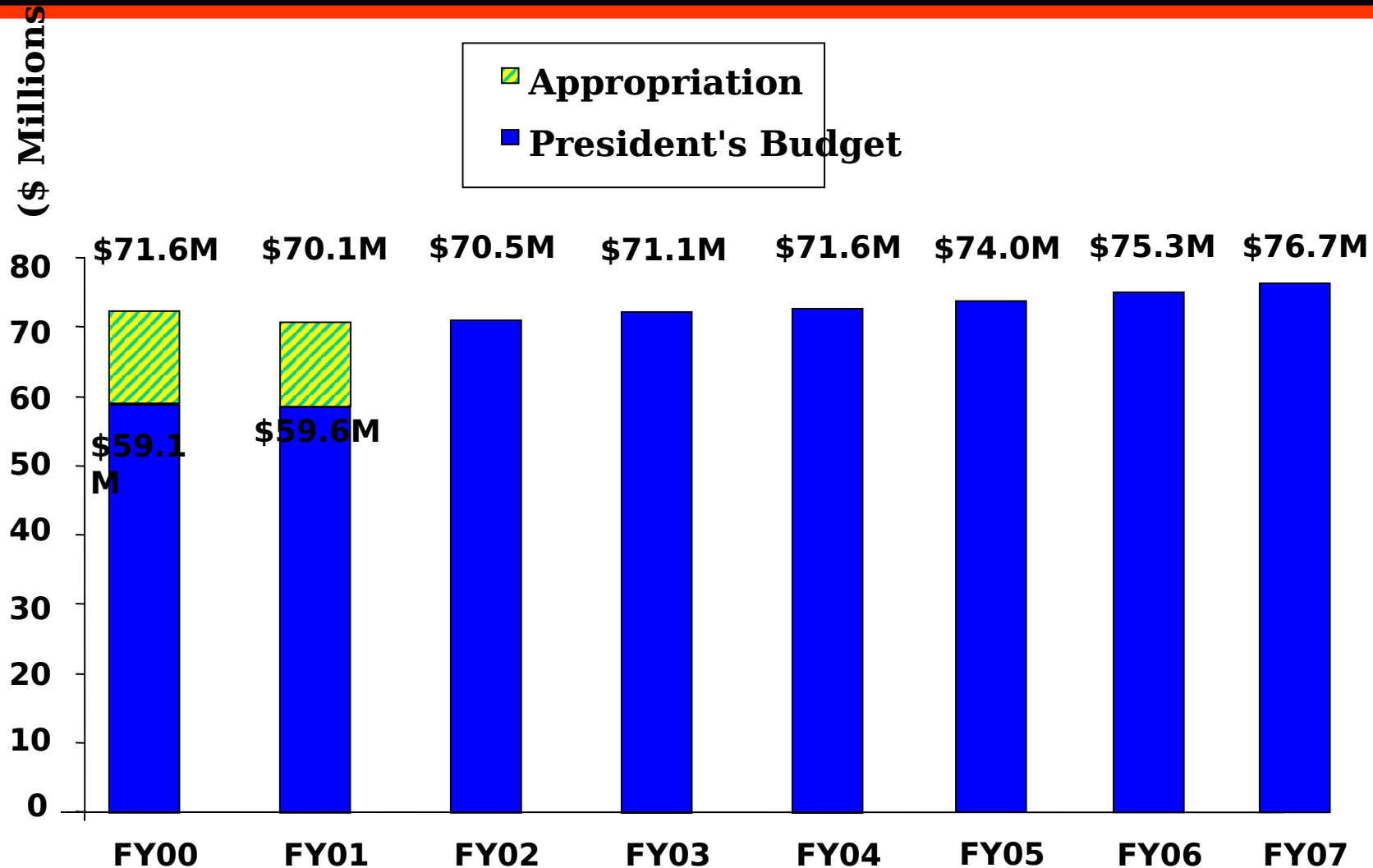
Phenolic Resin Honeycomb Core (Korex)

Best Manufacturing Practices (BMP)

RaPid/CAST



MANTECH Program Budget FY00-FY07





Joint Defense MANTECH Panel (JDMTP)*

Purpose:

- Identify and Integrate Program Requirements
- Conduct Collaborative Joint Program Planning
- Oversee Program Execution
- Promote Technology Transfer/Exchange
- Track Results, Benefits and Lessons Learned

Subpanels:

***Metals**

***Composites**

***Electronics**

***Advanced Manufacturing Enterprise**

Working Groups:

***Sustainment**

***Munitions/Energetics**

***The Tri-Service/DLA Panel that Establishes Joint ManTech Policy and Direction**



Navy MANTech Investment Opportunities

- **Rotorcraft Affordability (CAI Phase III)**
- **Micro-electromechanical Miniaturization (MEMs)**
- **Shipbuilding Affordability (Surface Strike - DD-21)**
- **Integrated Power Systems**
- **Supply Chain Integration**



Navy MANTECH Homepage

<http://mantech.pti.com>





DoD MANTECH Web Site

<http://www.dodmantech.com/>

Department of Defense

ManTech



Manufacturing Technology Program

AAAV Weld Process Improvement and Distortion Control



Technical Approach

Develop friction stir welding procedures for butt and corner joints in 2519 aluminum

Develop more productive appurtenance attachment methods

Predict and control distortion during fabrication of AAAV

Develop GMAW procedures to improve productivity and ballistic performance of welds in 2519 aluminum

Project No.: **C0956**

Performing Activity: **Navy Joining Center**

Start/End Dates: **FY99 - FY02**

Primary Benefit: **Acquisition cost avoidance**

Objective: **Control weld distortion, improve productivity, reduce cost, and maximize performance of welding procedures for fabrication of 2519 aluminum**

MANTECH Cost: **\$1,000K**

Implementation Cost: **\$1,000K**

Systems Impacted: **Advanced Amphibious Assault Vehicle (AAAV)**

Implementation: **By General Dynamics Land Systems during LRLP production of AAAV**

BenefitAnalysis/ROI:

5 Year Present Value ROI is 25.8 to 1

Total Savings of \$25.8M

Assumptions:

Friction stir welding and control of weld distortion will improve productivity and reduce life-cycle costs through:

Reduced risks and re-engineering costs

Reduced rework

Reduced material thickness and machining